SPRAYABLE ABLATOR RESEARCH FACILITY

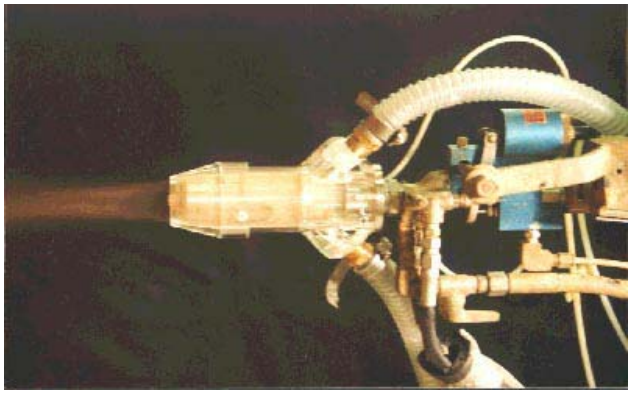
Purpose:

To be used for the development and qualification of sprayable, environmentally friendly ablative insulation to space structures.

The Sprayable Ablator Research Facility has the ability to spray target substrates in a selectable temperature and humidity-controlled environment. It is currently configured to support Convergent Spray Technology (CST), the core technology upon which the sprayable ablative insulation, MCC-1, is based. The facility is part of the National Center for Advanced Manufacturing (NCAM), located in Building 4707. It has state-of-the-art, computer-controlled processing equipment, which governs the various critical process parameters. Data acquisition equipment records the spray process parameter data for later evaluation. The facility utilizes a computer-controlled six-axis pedestal robot and turntable to enable deposition of material on the target substrate.

One of the unique features of this facility is the fact that full-scale flight hardware, up to the size of the Space Shuttle Solid Rocket Booster (SRB) forward skirt, can be accommodated in the spray booth, in addition to the more routine test panels. Access for flight hardware is gained via the removable facility ceiling and the tower's overhead crane. The capability of spraying flight hardware during the development and qualification process enabled a smooth transition to the production floor.

The Sprayable Ablator Research Facility has been instrumental in the development and qualification of a very successful ablative insulation, Marshall Convergent Coating (MCC-1). Although originally qualified for the Space Shuttle SRBs, the material was also selected for flight on the Air Force Titan IV, Boeing Sea Launch, and Boeing Delta IV.



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